FACT SHEET FOR NPDES PERMIT WA-000104-0

Abitibi Consolidated Sales Corporation

4302 Chambers Creek Road

Steilacoom, Washington 98388-1528

TABLE OF CONTENTS

INTRODUCTION 1
DESCRIPTION OF THE FACILITY 2
History 2
Industrial Process 2
Discharge Outfall 2
SANITARY WASTE WATER 3
PERMIT STATUS 3
SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT 3
WASTEWATER CHARACTERIZATION 3
SEPA COMPLIANCE 5

PROPOSED PERMIT LIMITATIONS 5
DESIGN CRITERIA 5
TECHNOLOGY-BASED EFFLUENT LIMITATIONS 5
SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS 7
Numerical Criteria for the Protection of Aquatic Life 7
Numerical Criteria for the Protection of Human Health 8
Narrative Criteria 8
Antidegradation 8
Critical Conditions 8
Mixing Zones 8
Description of the Receiving Water 9
SURFACE WATER QUALITY CRITERIA 9
Consideration of Surface Water Quality-Based Limits for Numeric Criteria 10
Whole Effluent Toxicity 12
Human Health 13
Sediment Quality 13
GROUND WATER QUALITY LIMITATIONS 14
COMPARISON OF EFFLUENT LIMITS WITH THE EXISTING PERMIT (APRIL 4,1996) 14

MONITORING REQUIREMENTS 14
LAB ACCREDITATION 14

OTHER PERMIT CONDITIONS 14
REPORTING AND RECORDKEEPING 14
NON-ROUTINE AND UNANTICIPATED DISCHARGES 15
SPILL PLAN 15
SOLID WASTE PLAN 15
OUTFALL EVALUATION 15
STORMWATER PLAN 15
FILTER PLANT BACKWASH'S BEST MANAGEMENT PLAN 16
TREATMENT SYSTEM OPERATING PLAN 16

GENERAL CONDITIONS 16

PERMIT ISSUANCE PROCEDURES 17
PERMIT MODIFICATIONS 17
RECOMMENDATION FOR PERMIT ISSUANCE 17

REFERENCES FOR TEXT AND APPENDICES.....17

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION.....18

APPENDIX B--GLOSSARY 19

APPENDIX C--TECHNICAL CALCULATIONS 1

APPENDIX D--RESPONSE TO COMMENTS 1

INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the State of Washington on the basis of Chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Comments and the resultant changes to the permit will be summarized in Appendix D--Response to Comments.

GENERAL INFORMATION	
Applicant	Abitibi Consolidated Sales Corporation
Facility Name and Address	West Tacoma Division 4302 Chambers Creek Road, Steilacoom, WA 98388-1528
Type of Facility:	Thermo-Mechanical and Deinking Pulp and Newsprint Paper Mill
SIC Code	2621
Discharge Location	Waterbody name: Puget Sound and Chambers Creek Latitude: 47° 11' 08" N. Longitude: 122° 35' 05" W.
Water Body ID Number	05-12-09, 05-12-07

DESCRIPTION OF THE FACILITY

HISTORY

The mill started producing pulp from rags and waste paper in 1919. Production of newsprint from whole log started in 1946. Boise Cascade Corporation acquired the mill in 1969. In 1975 the company constructed a thermo-mechanical pulp mill line. A recycling line was completed in 1993. Rainy River Forest Products took ownership of the mill in 1994 and merged with Stone-Consolidated in late 1995. On December 31, 1997, Stone-Consolidated and Abitibi-Price Sales merged to form Abitibi Consolidated Sales Corporation. The Abitibi Consolidated Sales Corporation presently runs the pulp and paper mill.

INDUSTRIAL PROCESS

The mill produced of 498 tons/day of newsprint paper averaged over the past three years. The mill's production has steadily decreased since January 1997 because of market conditions. If market conditions improve, the mill expect to increase production to the 1997 level. The mill was sent a copy of the permit and factsheet April 20, 2000 to review for technical accuracy. As a result of this review, the mill requested that the highest twelve-month period during the last three years be used in the effluent limitation allowances. The mill operated eleven and one-half months during this time period. The average production during this time was 547 air-dried tons per day (ADTD). Ecology agrees with the request. The newsprint paper was made from 58.6 % TMP pulp, 40.8 % deinked pulp, and 0.6 % nonintregated pulp. The nonintegrated pulp is being phased out. The effluent allowance for BOD and TSS will be calculated on 324 tons/day made by the thermo-mechanical pulp mill (TMP) and 223 tons/day made by the recycling facility. The TMP pulp mill has an initial chip washing facility.

The mill employs 200 people and operates 24 hours/day. The mill operates 52 weeks/year with periodic one-week maintenance shutdown. The mill withdraws freshwater from Chambers Creek and Garrison Creek to use in the paper making process after filtering. The wastewater from the pulp and paper making process receives primary and secondary treatment before being discharged into Puget Sound. For the past three years the wastewater effluent flow has averaged 6.1 MGD. No chlorine bleaching chemicals are used in the pulping process; therefore, dioxin related compounds are not formed in the pulping process.

DISCHARGE OUTFALL

The mill's process wastewater (Outfall 001) is discharged through a 30 inch submerged line beginning 960 feet SSW of Chambers Creek. Outfall 001 extends 400 feet WNW into Puget Sound. The wastewater is discharged through a diffuser system 96 feet long with ten 6 inch alternating ports. Outfall 002, the fresh water filter backwash is discharged back into Chambers Creek at the pump/filter house. The flow from Outfall 002 is about 0.8 MGD. Outfalls 003 and 004 discharges storm water. Outfall 003 discharges stormwater from the northern property area and Outfall 004 discharges stormwater from the administration parking lot. Outfalls 005 and 006 have been sealed closed. Outfall 007 (potable water well #1 overflow) and Outfalls 008-011 (freshwater clarifier overflow) are discharged to Chambers Creek via Garrison Creek. These outfalls have very small flows, (0.001 MGD).

SANITARY WASTE WATER

The company discharges all sanitary wastewater to the city of Steilacoom's collection system where it is pumped to the Pierce County wastewater treatment system.

PERMIT STATUS

The previous permit for this facility was issued on April 4, 1996. The previous permit placed effluent limitations on biochemical oxygen demand (BOD_5), total suspended solids (TSS), pH, and acute toxicity. The previous permit also required the permittee to monitor flow, temperature, production, and fecal coliform. The permittee was required to monitor copper in the receiving water. An application for permit renewal was submitted to the Department on November 17, 1999 and accepted by the Department on January 10, 2000.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received a Class II compliance inspection on February 2, 2000.

During the history of the previous permit, the Permittee has remained in compliance based on Discharge Monitoring Reports (DMRs) submitted to the Department and inspections conducted by the Department except for one time in January 1998. The permittee exceeded their monthly BOD_5 limit of 6,760 lbs. BOD_5/day for the month of January 1998 by discharging 7,900 lbs. BOD_5/day. The permittee was penalized $10,000 for this violation. This violation was the only violation within the past three years.

WASTEWATER CHARACTERIZATION

The proposed process wastewater discharge is characterized for the following regulated parameters:

Table 1: Wastewater Characterization (Process wastewater- Outfall 001)

Parameter	**Concentration**
BOD_5	71 mg/L
COD	520 mg/L
TOC	78 mg/L
TSS	238 mg/L
Temperature	29 °C
Color	>60
Fecal coliform	986 #/100 ml
Total organic nitrogen	4.3 mg/L
Phosphorus - Total	0.94 mg/L
Sulfate	370 mg.L
Surfactants	0.22 mg/L
Aluminum	0.33 mg/L
Barium	0.063 mg/L
Boron	0.13 mg/L
Iron - Total	0.51 mg/L
Magnesium	9.8 mg/L
Molybdenum	0.011 mg/L
Manganese	0.77 mg/L
Titanium	0.027 mg/L
Copper	0.026 mg/L
Lead	0.0086 mg/L
Selenium	0.0037 mg/L
Zinc	0.43 mg/L
Cyanide - Total	0.023 mg/L
Phenols	0.07 mg/L
Diethyl Phthalate	0.39 mg/L
Di-N-Octyl Phthalate	0.13 mg/L

SEPA COMPLIANCE

There are no SEPA requirements for the issuance of this permit.

PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the State of Washington were determined and included in this permit. Ecology does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in the regulations, and do not have a reasonable potential to cause a water quality violation. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology.

DESIGN CRITERIA

In accordance with WAC 173-220-150 (1)(g), flows or waste loadings shall not exceed approved design criteria. The design criteria for the treatment facility are sufficient to provide secondary treatment to all wastewater. The permittee will be required to inspect the wastewater aeration basin for liner integrity and solids buildup during the life of this permit.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

Technology-based limitations are set by regulations or developed on a case by case basis. The federal effluent guidelines for practicable control technically available (BPT) is defined in Part 430 Subpart M for groundwood-thermomechanical subcategory, in Part 430 Subpart Q for deinking subcategory (new source performance) where newsprint is made, and in Part 430 Subpart R for nonintegrated pulp is made or used. These guidelines were published in the federal register on November 18, 1982 and March 30, 1983. The federal effluent guidelines for best conventional pollutants control technology (BCT) for these categories were defined on December 17, 1986 to be the same as BPT previously defined in March 1983. BCT and BPT were defined more than ten years ago. With BCT and BPT being defined longer than ten years, it is Ecology policy to determine if they are still valid and if they can still be considered

equivalent to all known and reasonable treatment (AKART) for these categories of paper making.

On April 15, 1998, the Environmental Protection Agency promulgated effluent guidelines for the Bleached Kraft Papergrade and Soda subcategories and Papergrade Sulfite subcategory. The 1998 allowance for BOD and TSS in pound per 1000 pound of pulp produced for the above category were set at the same value as the allowances in the effluent guidelines published in 1982. The 1998 effluent guidelines took both emissions to air and water into consideration and included chlorinated organic compounds. Secondary treatment was the required type of treatment.

In 1993 during the construction of the deinking facility, the aeration basin diffuser system was upgraded with diffused air and a secondary clarifier was built. The diffused air system was needed to increase mixing and prevent solids buildup in the aeration basin. The secondary clarifier was added to removed suspended solids. The design report for the wastewater treatment system projected that 82 - 83 percent solids and 86 - 87 percent BOD_5 would be removed from the raw wastewater by the treatment system.

Throughout the history of the effluent guidelines, secondary treatment has been the accepted standard for BOD and TSS removal. It is expected that in the immediate future this trend will continue as indicated by the guideline promulgated on April 15, 1998. It is determined that the effluent guidelines for the TMP paper production, the deinking paper production, and the nonintegrated paper production are equivalent to AKART for the following reasons:

1) The mill wastewater flow had three components, that is TMP pulp production, deinked pulp production and nonintegrated. The mill has indicated that the nonintegrated pulp is being phased out. Therefore, the nonintegrated pulp category will not be included in the calculation of the TSS and BOD limits.

2) There were no changes in the new guidelines for the type of paper making promulgated on April 15, 1998.

3) Secondary treatment has been and is expected to remain the level of treatment that the effluent guidelines are based on.

4) At least one other permit has been issued with the 1982 effluent guidelines being determined to be equivalent to AKART.

Therefore, 40 CFR 430.132 Subpart M will be used for the Thermo-Mechanical portion of the production and 40 CFR 430.175 Subpart Q will be used for the deinked portion of the production. Effluent guidelines allowances for these types of production are given below:

	BOD 30 day ave lbs/1000 lbs	BOD daily max lbs/1000 lbs	TSS 30 day ave lbs/1000 lbs	TSS daily max lbs/1000 lbs
TMP	5.55	10.6	8.35	15.55
Chip washing	0.05	0.05	0.15	0.30
Deinked	3.2	6.0	6.3	12.0

The production used is given below:

Production	TMP Tons/day	Deinked tons/day	Total combined production tons/day
Base	324	223	547

The limits are calculated using the production and allowances indicated. The effluent limits are summarized below:

BOD Monthly Average	BOD Daily Maximum	TSS Monthly Average	TSS Daily Maximum
5100	9600	8300	15600

The proposed limits for the daily maximum BOD and TSS have been reduced by 25 percent from the current permit.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels

of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the State of Washington.

ANTIDEGRADATION

The State of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

CRITICAL CONDITIONS

Surface water quality-based limits are derived for the critical condition of the receiving water, which represents the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses.

MIXING ZONES

The Water Quality Standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and

"chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

DESCRIPTION OF THE RECEIVING WATER

The facility's Outfall 001 discharges to Puget Sound and Outfall 002 to Chambers Creek are designated as Class AA receiving waters in the vicinity of the outfall. Pierce County's wastewater treatment system discharges within a mile from the permittee's outfall. Minor discharges are the Little Marinia and the Ferry Dock for storm water. Minor non-point sources of pollutants include Oakbrook subdivision, Clover Creek drainage basin, and Western State Hospital.

Characteristic uses include industrial water supply (Chambers Creek and Garrison Creek); fish migration; fish and shellfish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall markedly and uniformly exceed the requirements for all or substantially all uses.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria for this discharge are summarized below:

Fecal Coliforms	14 organisms/100 mL maximum geometric mean
Dissolved Oxygen	7 mg/L minimum
Temperature	13 degrees Celsius maximum or incremental increases above background
pH	7.0 to 8.5 standard units
Turbidity	less than 5 NTU above background
Toxics	No toxics in toxic amounts (see Appendix C for numeric criteria for toxics of concern for this discharge)
Aesthetic value	Shall not be impaired by presence of material or their effects excluding those of natural origin, which offend the senses of sight, smell, touch, or taste.

CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

If pollutant concentrations in the proposed discharge exceed water quality criteria with technology-based controls that the Department has determined to be AKART then mixing zones are authorized in accordance with the geometric configuration, flow restriction, and other restrictions for mixing zones in Chapter 173-201A WAC and are defined as follows:

The dilution factors of effluent to receiving water that occur within these zones have been determined at the critical condition by the use of UDKHDEN model for the near field dilution and Brooks method to obtain the far field in April 1994. The dilution factors have been determined to be:

	Acute	Chronic
Aquatic Life	27	152
Human Health, Carcinogen		152
Human Health, Non-carcinogen		152

Pollutants in an effluent may affect the aquatic environment near the point of discharge (near field) or at a considerable distance from the point of discharge (far field). Toxic pollutants, for example, are near-field pollutants--their adverse effects diminish rapidly with mixing in the receiving water. Conversely, a pollutant such as BOD is a far-field pollutant whose adverse effect occurs away from the discharge even after dilution has occurred. Thus, the method of calculating surface water quality-based effluent limits varies with the point at which the pollutant has its maximum effect.

The derivation of surface water quality-based limits also takes into account the variability of the pollutant concentrations in both the effluent and the receiving water.

The impacts of dissolved oxygen deficiency, temperature, pH, fecal coliform, chlorine, metals, and other toxics were determined as shown below, using the dilution factors at critical conditions described above.

Dissolved Oxygen-- Due to the large dilution factor and the high current speed, it has been determined that the receiving waters will not be adversely affected by these discharges.

BOD_5--This discharge with technology-based limitations results in a small amount of BOD loading relative to the large amount of dilution occurring in the receiving water at critical conditions. Technology-based limitations for BOD will be protective of dissolved oxygen criteria in the receiving water.

Temperature--The impact of the discharge on the temperature of the receiving water was modeled by simple mixing analysis at the critical condition. The receiving water temperature at the critical condition is 13.7 ^{o}C and the effluent temperature is 35.6 ^{o}C. The predicted resultant temperature at the boundary of the chronic mixing zone is 13.84 ^{o}C and the incremental rise is 0.14 ^{o}C. Since the receiving water temperature is larger than 13 ^{o}C. the incremental increase allowed will be t= 8/(T-4), where t is the allowed incremental increase and T is the background temperature. At 13.7 ^{o}C, t is 0.82. Since the calculated incremental increase is less than the

allowed, no limits for temperature will be required. However, the monitoring requirement for temperature is kept in the permit.

pH--Because of the high buffering capacity of marine water, compliance with the technology-based limits of 6 to 9 will assure compliance with the Water Quality Standards for Surface Waters. Under critical conditions there is no predicted violation of the Water Quality Standards for Surface Waters. Therefore, the technology-based effluent limitations for temperature and pH were placed in the permit. The previous permit had a minimum pH limit of 6.0 SU with a maximum pH limit of 9.0 SU with no exceptions. The permittee met this limit for the permit terms. Therefore, the mill's wastewater treatment system is capable of meeting the limit. The condition is included in the proposed permit.

Fecal coliform -- The previous permit required that the mill monitor for fecal coliform quarterly. The result of this data showed that there were no water quality violations. No limits for fecal coliform will be placed in the permit for this permit.

Turbidity--The impact of turbidity was evaluated based on the range of turbidity in the effluent and turbidity of the receiving water. Due to the large degree of dilution, it was determined that the turbidity criteria would not be violated outside the designated mixing zone.

Toxic Pollutants--Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits defined in regulation are not exempted from meeting the Water Quality Standards for Surface Waters or from having surface water quality-based effluent limits.

The following toxics were determined to be present in the discharge total cyanide, chlorine residual, lead, selenium, zinc, copper, and phenols. A reasonable potential analysis (See Appendix C) was conducted on these parameters to determine whether or not effluent limitations would be required in this permit. Water quality criteria for metals in Chapter 173-201A WAC are based on the dissolved fraction of the metal and cyanide as weak and dissoicable.

The determination of the reasonable potential for cyanide to exceed the water quality criteria was evaluated with procedures given in EPA, 1991 (Appendix C) at the critical condition. Total cyanide concentration was measured and reported on the permit application. The water quality criteria are based on weak and dissociable. With no data on the weak and dissociable provided in the permit application, the total cyanide was used in the reasonable potential determination. The critical condition in this case occurs at mean low low water (MLLW). The parameters used in the critical condition modeling are as follows: acute dilution factor 27, chronic dilution factor 152, receiving water temperature 13.7^{o}C. During the first year of the permit, the permittee will be required to determined weak and dissociable cyanide in the effluent and report the results within six months to Ecology. The reasonable potential calculations will be re-evaluated when the report is received.

In the last permit, the permittee determined the concentration of copper in the receiving water near outfall 001. As a result of this determination, there is no reasonable potential for copper to exceed the water quality criteria. Therefore, no further actions are required.

In the reasonable potential calculations for zinc, there were no receiving water data near the outfall. However, in 1985, NOAA determined the concentration of zinc at various site within Puget Sound. The largest values of zinc was 2.4 ppb at Dalco Passage and 0.7 ppb in the outer region of Commencement Bay. The sites where these values were measured would be expected to have higher zinc concentration than near the mill's outfall. Since there are no reasonable potential using the highest value of zinc from the 1985 data, the discharge would not cause a violation of the water quality criteria for zinc in the vicinity of the mill's outfall. However, if one look at the sediment standards, there would be a possible impact. From a professional judge the mill will be required to find the sources of zinc and reduce them. This way the sediment would be protected. The permit will require that the mill investigate the sources of zinc being discharged and determine if they can be reduced the discharged amounts.

No chlorine compounds are used for bleaching at the mill. The detected chlorine residual is from the interference of other chemicals in the wastewater effluent. Therefore, no further actions are required.

All other parameters detected in the effluent were below the acute, chronic, or health quality criteria. Therefore, no receiving water study is required in the permit.

WHOLE EFFLUENT TOXICITY

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing. Some WET tests measure acute toxicity and other WET tests measure chronic toxicity.

Acute toxicity tests measure mortality as the significant response to the toxicity of the effluent. Dischargers who monitor their wastewater with acute toxicity tests are providing an indication of the potential lethal effect of the effluent to organisms in the receiving environment.

Chronic toxicity tests measure various sublethal toxic responses such as retarded growth or reduced reproduction. Chronic toxicity tests often involve either a complete life cycle test of an organism with an extremely short life cycle or a partial life cycle test on a critical stage of one of a test organism's life cycles. Organism survival is also measured in some chronic toxicity tests.

Accredited WET testing laboratories have the proper WET testing protocols, data requirements, and reporting format. Accredited laboratories are knowledgeable about WET testing and capable of calculating an NOEC, LC_{50}, EC_{50}, IC_{25}, etc. All accredited labs have been provided the most recent version of the Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* which is referenced in the permit. Any Permittee interested in receiving a copy of this publication may call the Ecology Publications Distribution Center 360-407-7472 for a copy. Ecology recommends that Permittees send a copy of the acute or chronic toxicity sections(s) of their permits to their laboratory of choice.

The WET tests during effluent characterization indicated that no reasonable potential exists to cause receiving water acute or chronic toxicity, and the Permittee will not be given an acute WET limit or chronic limit. However, they will be required to retest the effluent prior to application for permit renewal in order to demonstrate that acute and chronic toxicity has not increased in the effluent.

If the Permittee makes process or material changes which, in the Department's opinion, results in an increased potential for effluent toxicity, then the Department may require additional effluent characterization in a regulatory order, by permit modification, or in the permit renewal. Toxicity is assumed to have increased if WET testing conducted for submission with a permit application fails to meet the performance standards in WAC 173-205-020, "whole effluent toxicity performance standard". The Permittee may demonstrate to the Department that changes have not increased effluent toxicity by performing additional WET testing after the time the process or material changes have been made.

HUMAN HEALTH

Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

A determination of the discharge's potential to cause an exceedance of the water quality standards was conducted as required by 40 CFR 122.44(d). The reasonable potential determination was evaluated with procedures given in the Technical Support Document for Water Quality-Based Toxics Control (EPA/505/2-90-001) and the Department's Permit Writer's Manual (Ecology Publication 92-109, July, 1994). The determination indicated the discharge has no reasonable potential to cause a violation of water quality standards, thus an effluent limit is not warranted

SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400). The Department has determined that the discharge has the potential to cause violations the sediment quality standards. This determination is based on based the review of the (1995) baseline sediment monitoring data submitted in the August 1996 facility's sediment data report and the review of the facility's effluent monitoring data submitted in 1999. Ecology evaluated Abitibi Consolidated's 1999 effluent quality data submitted for permit renewal for the potential to exceed sediment quality standards. Ecology's evaluation of the data identified that heavy metals, notably zinc, that may potentially exceed sediment quality criteria due to the quality wastewater discharged. Based on this review, a condition has been placed in the proposed permit to require the Permittee to conduct baseline sediment monitoring in the area surrounding the discharge diffusers. Ecology recommends a focus of the monitoring be to resample and analyze the sediment quality to address the nature and extent of the contamination found by sediment monitoring in 1995.

GROUND WATER QUALITY LIMITATIONS

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100). The permittee has no discharge to ground and therefore no limitations are required based on potential effects to ground water.

COMPARISON OF EFFLUENT LIMITS WITH THE EXISTING PERMIT (APRIL 4,1996)

	Existing Limits		Proposed Limits	
	Monthly Average (lbs./day)	Daily Maximum (lbs./day)	Monthly Average (lbs./day)	Daily Maximum (lbs./day)
BOD_5	5,760	12,813	5,100	9,600
TSS	11,685	20,685	8,300	15,600
	Minimum	Maximum	Minimum	Maximum
pH	6.0	9.0	6.0	9.0

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved. The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies takes into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

LAB ACCREDITATION

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories.* The laboratory at this facility is accredited for pH, dissolved oxygen, total suspended solids, and biochemical oxygen demand.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The requirements of Special Conditions S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

NON-ROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate wastewater that is not characterized in their permit application. The possible discharge is not a routine discharge. The unforeseen discharge was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems. These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for non-routine and unanticipated discharges. The permit requires a characterization of these waste waters for pollutants and examination of the opportunities for reuse. Ecology may authorize a direct discharge via the process wastewater's or stormwater's outfalls for clean water, require that the wastewater be placed through the facilities wastewater treatment process, or be reused depending on the nature and extent of pollutants in the wastewater and opportunities for reuse.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080. The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such spills occur. The proposed permit requires the Permittee to update this plan and to maintain it on site.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste. The proposed permit requires the Permittee to update the solid waste plan designed to prevent solid waste from causing pollution of the waters of the state. The plan must be maintained on site for the local permitting agency and/or the Department review.

OUTFALL EVALUATION

The permittee inspected outfall 001 during the previous permit. The outfall appeared to be in good conditions. However, the proposed permit will require the Permittee to again conduct an outfall inspection and submit a report detailing the findings of that inspection. The purpose of the inspection is to determine the condition of the discharge pipe and diffusers and to evaluate the extent of sediment accumulations in the vicinity of the outfall.

STORMWATER PLAN

Stormwater from the majority of the mill is treated and discharged with the mill's process wastewater. Some stormwater is discharged directly to Garrision Creek on the mill's south side and Unnamed Creek on the mill's north side. The sources of all but one of these direct discharges overflow from the freshwater wells. The exception is a parking lot. These untreated stormwater discharges are not related to industrial activity.

In the previous permit, the permittee was required to develop, implement, and comply with the Stormwater Pollution Prevention Planning (SWPPP) for Industrial Facilities that was published by Ecology. As part of this planning process, the permittee was required to develop a best management plan (BMP). The permittee will be required by the proposed permit to update the BMP plan and follow the plan that was developed under the previous.

FILTER PLANT BACKWASH'S BEST MANAGEMENT PLAN

The previous permit included a best management plan to discharge the filter backwash into Chambers Creek. The following three conditions defined the BMP plan:

1. Chemical treatment will not be used at the filter plant prior to discharge.
2. TSS from the filter plant backwash shall not exceed 50 mg/L in concentration for a weekly average.
3. TSS from the filter plant backwash shall be monitored three (3) times per week on a 24-hour composite basis and re[orted to Ecology on the monthly eport.

The condition is kept in the proposed permit.

TREATMENT SYSTEM OPERATING PLAN

In accordance with state and federal regulations, the Permittee is required to take all reasonable steps to properly operate and maintain the treatment system (40 CFR 122.41(e)) and WAC 173-220-150 (1)(g). A treatment system-operating plan was updated as required by the previous permit. It has been determined that the implementation of the procedures in the Treatment System Operating Plan is a reasonable measure to ensure compliance with the terms and limitations in the permit. The permittee will be required to update the plan and maintain it on site during the terms of this permit.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Conditions G7 and G8 relate to permit renewal and transfer. Condition G9 requires the Permittee to control its production in order to maintain compliance with its permit. Condition G10 prohibits the reintroduction of removed substances back into the effluent. Condition G11 states that the Department will modify or revoke and reissue the permit to conform to more stringent toxic effluent standards or prohibitions. Condition G12 incorporates

by reference all other requirements of 40 CFR 122.41 and 122.42. Condition G13 notifies the Permittee that additional monitoring may be established by the Department. Condition G14 requires the payment of permit fees. Condition G15 describes the penalties for violating permit conditions.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. The Department proposes that this proposed permit be issued for five years.

REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1. 1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.
2. 1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.
3. 1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.
4. 1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.
5. 1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.Tsivoglou, E.C., and J.R. Wallace.
6. 1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)
7. Washington State Department of Ecology. 1994. Permit Writer's Manual. Publication Number 92-109
8. Wright, R.M., and A.J. McDonnell.1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(EE2). (Cited in EPA 1985 op.cit.)
9. 1985. Dissolved Trace Metals in the Surface Waters of Puget Sound, NOAA/Pacific marine Environmental Laboratory, Paulson, A. J. and Feely, R. A.

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations that are described in the rest of this fact sheet.

The Department will publish a Public Notice of Draft (PNOD) on May 16, 2000 in the Tacoma News Tribune to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the Industrial Section office listed below and the Pierce County's Libraries. Written comments should be mailed to:

Don Nelson
Department of Ecology
Industrial Section
300 Desmond Drive
P. O. Box 47706
Olympia, WA 98504-7706

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (360) 407-6940, or by writing to the address listed above.

This permit and fact sheet were written by Don Nelson

APPENDIX B--GLOSSARY

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART-- An acronym for "all known, available, and reasonable methods of treatment".

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation --The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD_5--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD_5 is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of a treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring –Uninterrupted, unless otherwise noted in the permit.

Critical Condition--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Dilution Factor--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Major Facility--A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Minor Facility--A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Responsible Corporate Officer-- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Upset--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C--TECHNICAL CALCULATIONS

Several of the Excel® spreadsheet tools used to evaluate a discharger's ability to meet Washington State water quality standards can be found on the Department's homepage at http.www:wa.gov.ecology.

	Metal Criteria Translator as decimal	Metal Criteria Translator as decimal	Ambient Concentration (metals as dissolved)	Acute	Chronic	Acute Mixing Zone	Chronic Mixing Zone	**LIMIT REQ'D?**
Parameter	Acute	Chronic	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	
Copper	0.83	0.83	0.8200	4.80	3.10	3.19	1.24	NO
Chlorine residual	0.95	0.95	0.0000	13.00	7.50	2.18	0.39	NO
Zinc	1.00	0.95	2.4000	90.00	81.00	62.75	12.54	NO
Selenium				71.00	170.00	8.49	1.51	NO
Cyanide - total				2.80	9.10	5.28	0.94	UNK
Fecal coliform health criteria			0.0000	10000.00	14.00	47.68	8.47	NO
phenols			0.0000	4600000.00	4600000.00	6.48	1.15	NO
diethylphthalte				1000000000.00	120000.00	36.11	6.41	NO

Effluent percentile value		Max effluent conc. measured (metals as total recoverable)	Coeff Variation		# of samples	Multiplier	Acute Dil'n Factor	Chronic Dil'n Factor
	Pn	*ug/L*	*CV*	*s*	*n*			
0.95	0.368	26.00	0.60	0.55	3	3.00	27	152
0.95	0.050	10.00	0.60	0.55	1	6.20	27	152
0.95	0.224	430.00	0.60	0.55	2	3.79	27	152
0.95	0.050	37.00	0.60	0.55	1	6.20	27	152
0.95	0.050	23.00	0.60	0.55	1	6.20	27	152
0.50	0.779	792.00	0.60	0.55	12	1.63	27	152
0.00								
0.50	0.050	70.00	0.60	0.55	1	2.50	27	152
0.50	0.050	390.00	0.60	0.55	1	2.50	27	152

APPENDIX D--RESPONSE TO COMMENTS

CITIZENS FOR A HEALTHY BAY

Comment No. 1

Support low BOD and TSS limit, but should have concentration limit also.

Response

Thanks for your support. Ecology is currently encouraging pulp and paper mills within the state to reduce water consumption used in the paper making process. By reducing the volume of water used in the paper making process, the mills will discharge less wastewater. By reducing water consumption the mill will concentrate the pulping chemicals contained in the wastewater. Secondary treatment is capable of removing about 90 - 95 percent of these chemicals. Therefore, the other 5 - 10 percent of the pulping chemicals are contained in less water. We are already limiting the mass and trying to reduce the flow. Limiting the concentration of these chemicals would be redundant since the limited mass depends on the concentration and flow and could cause the mill to use more water. The current regulations permit Ecology to limit the mass being discharged by the mill. The limit stays the same and is based on mass limit.

Comment 2

We support Ecology's requirements to further quantify cyanide and identify ways to reduce zinc but Ecology should require the permittee to monitor copper, lead, selenium, and phenols.

Response

The reasonable potential analysis of these chemicals showed no acute or chronic violations after observed dilution ratios were taken into account. Since current regulations allow for an acute and chronic dilution zones, no further monitoring will be required in the permit. However, the concentration of these chemicals will be reported in the next permit application. At that time another reasonable potential analysis will be made to determine if limits for these and all chemicals discharged into the receiving water will be required. Further monitoring may be required in the next permit. No additional monitoring is added to the permit.

Comment 3

Section S10A2 should provide guidance on parameters to be analyzed at the 9 to 18 stations … in the sediment study.

Response

The baseline sediment study includes 47 organic compounds and 8 metals. The table below lists these chemicals.

TABLE 1. NUMERICAL CRITERIA FOR PUGET SOUND MARINE SEDIMENTS

Chemical Parameter	Sediment Management Standards		Puget Sound Dredged Disposal Analysis Program	
	SQS	SIZ_{max}, CSL, MCUL	SL	ML
Metals	(mg/kg dry weight, ppm)		(mg/kg dry weight, ppm)	
Antimony	--	--	20	200
Arsenic	57	93	57	700
Cadmium	5.1	6.7	0.96	9.6
Chromium	260	270	--	--
Copper	390	390	81	810
Lead	450	530	66	660
Mercury	0.41	0.59	0.21	2.1
Nickel	--	--	140	--
Silver	6.1	6.1	1.2	6.1
Zinc	410	960	160	1,600
Nonionizable Organic Compounds	(mg/kg organic carbon[a], ppm OC)		(μg/kg dry weight, ppb)	
Aromatic Hydrocarbons				
Total LPAH[b]	370	780	610	6,100
Naphthalene	99	170	210	2,100
Acenaphthylene	66	66	64	640
Acenaphthene	16	57	63	630
Fluorene	23	79	64	640
Phenanthrene	100	480	320	3,200
Anthracene	220	1,200	130	1,300
2-Methylnaphthalene	38	64	67	670
Total HPAH[c]	960	5,300	1,800	51,000
Fluoranthene	160	1,200	630	6,300
Pyrene	1,000	1,400	430	7,300
Benz[a]anthracene	110	270	450	4,500
Chrysene	110	460	670	6,700
Total benzofluoranthenes[d]	230	450	800	8,000
Benzo[a]pyrene	99	210	680	6,800

Chemical Parameter	Sediment Management Standards		Puget Sound Dredged Disposal Analysis Program	
	SQS	**SIZ_{max}, CSL, MCUL**	**SL**	**ML**
Indeno[1,2,3-cd]pyrene	34	88	69	5,200
Dibenz[a,h]anthracene	12	33	120	1,200
Benzo[ghi]perylene	31	78	540	5,400
Chlorinated Benzenes				
1,2-Dichlorobenzene	2.3	2.3	19	350
1,3-Dichlorbenzene	--	--	170	--
1,4-Dichlorobenzene	3.1	9	26	260
1,2,4-Trichlorobenzene	0.81	1.8	13	64
Hexachlorobenzene	0.38	2.3	23	230
Phthalate Esters				
Dimethyl phthalate	53	53	160	--
Diethyl phthalate	61	110	97	--
Di-n-butyl phthalate	220	1,700	1,400	--
Butyl benzyl phthalate	4.9	64	470	--
Bis[2-ethylhexyl]phthalate	47	78	3,100	--
Di-n-octyl phthalate	58	4,500	6,200	--
Miscellaneous				
Dibenzofuran	15	58	54	540
Hexachlorobutadiene	3.9	6.2	29	290
Hexachloroethane	--	--	1,400	14,000
N-nitrosodiphenylamine	11	11	28	220
Total PCBs	12	65	130	2,500
Chlorinated Pesticides				
Total DDT	--	--	6.9	69
Aldrin	--	--	10	--
Chlordane	--	--	10	--
Dieldrin	--	--	10	--
Heptachlor	--	--	10	--
Lindane	--	--	10	--
Volatile Organic Compounds				
Ethylbenzene	--	--	10	50
Tetrachloroethene	--	--	14	210
Total xylene	--	--	12	160
Trichloroethene	--	--	160	1,600
Ionizable Organic Compounds	(µg/kg dry weight, ppb)		(µg/kg dry weight, ppb)	
Phenol	420	1,200	120	1,200
2-Methylphenol	63	63	20	72
4-Methylphenol	670	670	120	1,200
2,4-Dimethylphenol	29	29	29	50
Pentachlorophenol	360	690	100	690

Chemical Parameter	Sediment Management Standards		Puget Sound Dredged Disposal Analysis Program	
	SQS	**SIZ_{max}, CSL, MCUL**	**SL**	**ML**
Benzyl alcohol	57	73	25	73
Benzoic acid	650	650	400	690

The mill performed a sediment study in the previous permit. The results of the study and the current concentration of zinc in the effluent indicated that another sample set needed to be performed. The required study will be conducted using the sampling guidance above. This guidance is deem sufficient.

Comment 4

We are concerned about Ecology's explicit intention to authorize non-routine and unanticipated discharges without public notice.

Response

First of all these discharges are expected due to maintenance done when the mill is running. We do not expect very many of these discharges. The main difference between these discharges and the effluent discharge is only the location of the discharge. They will still have to meet the permit limit and all water quality criteria and have prior approval from Ecology. This condition was placed in the permit to reduce the number of permit modifications. The merit of each discharge will be determined on a case by case basis. The work load reduction that will be caused by the time saving on these minor permit modifications will enhance Ecology ability to issue permits that are backlogged thus reducing possible pollution. Ecology will consider the duration of each event. For any long-term event, a public notice would be given.

The condition is retained.